AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A method of forming a peptide conjugate comprising a covalent linkage between a modifying group and a glycosylated or non-glycosylated peptide, wherein said modifying group is conjugated to the peptide via a glycosyl linking group interposed between and covalently linked to both said peptide and said modifying group, said method comprising:

a. contacting a cell with a modified sugar comprising a ~~sugar~~ sialic acid moiety ~~and~~ covalently functionalized with at least one modifying group, wherein said at least one modifying group is a ~~member independently selected from the group consisting of a~~ water-soluble polymer~~, a therapeutic moiety, a detectable label, a biomolecule and a targeting moiety~~;

b. incubating said cell under conditions in which said cell internalizes said modified sugar;

c. after step b, intracellularly contacting said modified sugar with a glycosylated or non-glycosylated peptide and a glycosyltransferase for which said modified sugar is a substrate, thereby forming said peptide conjugate.

2. (Original) The method of claim **1**, further comprising, after step b and before step c, intracellularly contacting said modified sugar with a nucleotide and a nucleotidyl transferase, thereby forming a modified nucleotide sugar, wherein

said modified sugar in step c is said modified nucleotide sugar.

3. (Original) The method of claim **1**, further comprising isolating said peptide conjugate.

4. (Original) The method of claim **1**, wherein said modified sugar is a modified nucleotide sugar.

5. (Original) The method of claim **1**, wherein said modified sugar is a modified activated sugar.

6. (Original) The method of claim **1**, wherein said glycosyl linking group is an intact glycosyl linking group.

7. (Original) The method of claim **1**, wherein said modified sugar is a precursor modified sugar that is intracellularly converted to an intermediate modified sugar by cellular enzymes after step b and before step c.

8. (Original) The method of claim **7**, wherein said intermediate modified sugar is a phosphorylated modified sugar, wherein said phosphorylated modified sugar is formed by intracellularly contacting said modified sugar with a kinase for which said modified sugar is a substrate, thereby forming a phosphorylated modified nucleotide sugar.

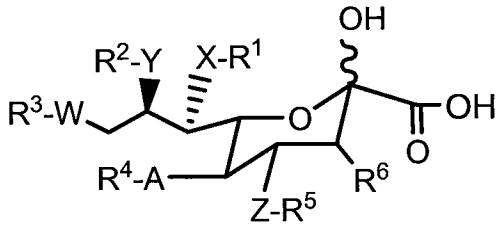
9. (Original) The method of claim **1**, wherein said water-soluble polymer comprises poly(ethylene glycol).

10. (Original) The method of claim **10**, wherein said poly(ethylene glycol) has a molecular weight distribution that is essentially homodisperse.

11. (Cancel)

12. (Cancel)

13. (Currently amended) The method of claim ~~11~~ 1, wherein said modified sugar has the formula



(II)

wherein,

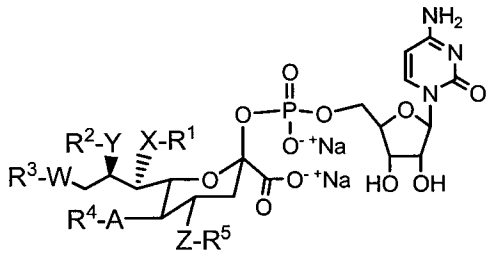
W, X, Y, Z, and A are members independently selected from a bond, substituted or unsubstituted alkylene, substituted or unsubstituted heteroalkylene, substituted or unsubstituted cycloalkylene, substituted or unsubstituted heterocycloalkylene, substituted or unsubstituted arylene, substituted or unsubstituted heteroarylene, –O-, -N(R^7)-, -S-, and -CH_2-, wherein,

R^7 is a member independently selected from hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl; and

R^1, R^2, R^3, R^4, R^5 and R^6 are members independently selected from -OH, -NH_2, -SH, hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, and a ~~modifying group~~water-soluble polymer, wherein at least one or R^1, R^2, R^3, R^4, R^5 and R^6 is said ~~modifying group~~ water-soluble polymer.

14. (Cancel)

15. (Currently amended) The method of claim ~~14~~ 2, wherein said modified nucleotide sugar has the formula



(III)

wherein,

W, X, Y, Z, and A are members independently selected from a bond, substituted or unsubstituted alkylene, substituted or unsubstituted heteroalkylene, substituted or unsubstituted cycloalkylene, substituted or unsubstituted heterocycloalkylene, substituted or unsubstituted arylene, substituted or unsubstituted heteroarylene, –O-, -N(R^7)-, -S-, and -CH_2-, wherein,

R^7 is a member independently selected from hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aryl, and substituted or unsubstituted heteroaryl; and

R^1, R^2, R^3, R^4, and R^5 are independently selected from -OH, -NH_2, -SH, hydrogen, substituted or unsubstituted alkyl, substituted or unsubstituted heteroalkyl, substituted or unsubstituted cycloalkyl, substituted or unsubstituted heterocycloalkyl, substituted or unsubstituted aryl, substituted or unsubstituted heteroaryl, and a ~~modifying group~~water-soluble polymer, wherein at least one or R^1, R^2, R^3, R^4, and R^5 is ~~a modifying group~~said water-soluble polymer.

16. (Cancel)

17. (Original) The method of claim **1**, wherein said peptide is selected from the group consisting of granulocyte colony stimulating factor, interferon-alpha, interferon-beta, Factor VIIa, Factor IX, follicle stimulating hormone, erythropoietin, granulocyte macrophage colony stimulating factor, interferon-gamma, alpha-1-protease inhibitor, glucocerebrosidase, tissue plasminogen activator protein, interleukin-2, Factor VIII, chimeric tumor necrosis factor receptor, urokinase, chimeric anti-glycoprotein IIb/IIIa antibody, chimeric anti-HER2 antibody,

chimeric anti-respiratory syncytial virus antibody, chimeric anti-CD20 antibody, DNase, chimeric anti-tumor necrosis factor antibody, human insulin, hepatitis B sAg, interferon-omega, alpha-galactosidase A, alpha-iduronidase, anti-thrombin III, human chorionic gonadotropin, and human growth hormone.

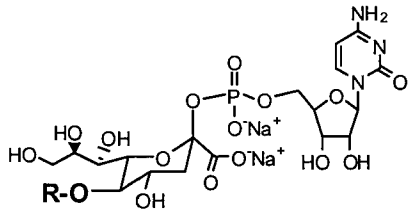
18. (Withdrawn) A cell comprising a peptide conjugate, said peptide conjugate comprising:

(i) a modifying group and a peptide, wherein said modifying group is linked to said peptide via a glycosyl linking group interposed between and covalently linked to both the peptide and said modifying group; and

(ii) said modifying group is a member independently selected from the group consisting of a water-soluble polymer, a therapeutic moiety, a detectable label, and a targeting moiety.

19. (Withdrawn) The method of claim **18**, wherein said glycosyl linking group is an intact glycosyl linking group.

20. (New) The method according to claim **2**, said modified nucleotide sugar having a formula which is a member selected from:



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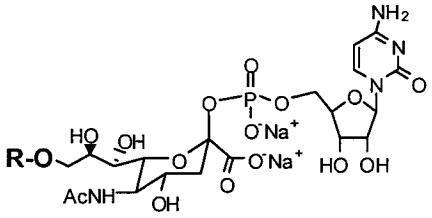

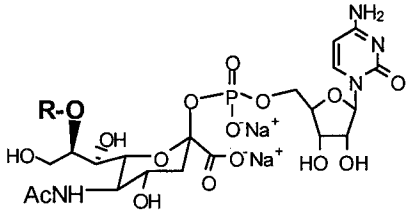

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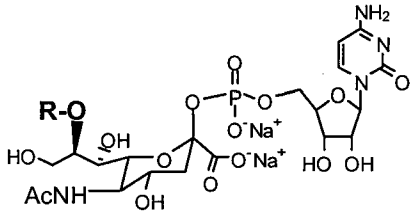

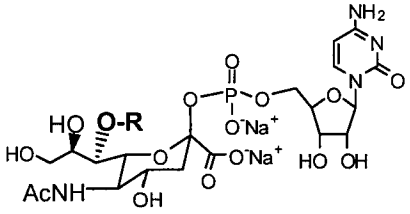

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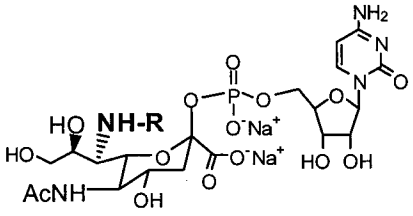

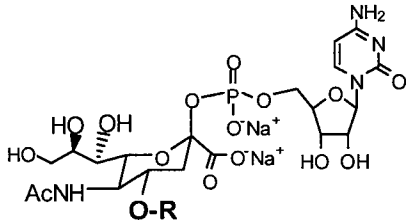

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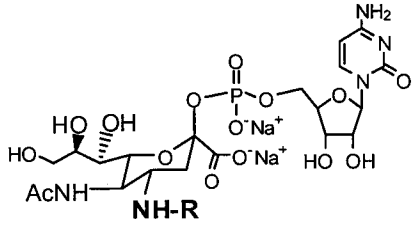
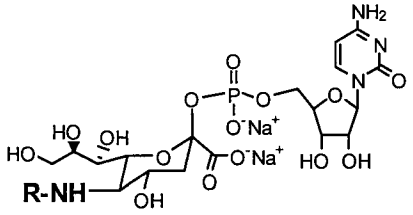
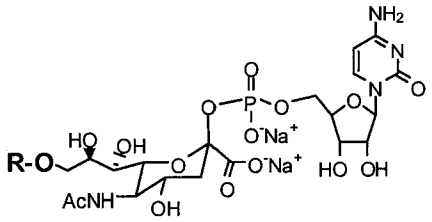




; and



wherein

R is said water-soluble polymer.

21. (New) The method according to claim **1** wherein said water-soluble polymer is a poly(alkylene oxide) selected from linear poly(alkylene oxide) and branched poly(alkylene oxide).

22. (New) The method according to claim 20 wherein said water-soluble polymer is a poly(alkylene oxide) selected from linear poly(alkylene oxide) and branched poly(alkylene oxide).

23. (New) The method according to claim 1 wherein said modified sugar has the formula: